

WHAT IS CLAIMED IS:

- 1 1. A method comprising:
2 advancing a member into a nucleus pulposus of an intervertebral disc by blunt
3 dissection, the nucleus pulposus having a volume, and
4 applying radiofrequency energy from the member to decrease the volume of the
5 nucleus pulposus.
- 1 2. The method of claim 1 wherein applying radiofrequency energy removes
2 material of the nucleus pulposus.
- 1 3. The method of claim 1 wherein applying radiofrequency energy removes
2 water of the nucleus pulposus.
- 1 4. The method of claim 1 wherein applying radiofrequency energy removes disc
2 tissue of the nucleus pulposus.
- 1 5. The method of claim 2 or 3 wherein applying radiofrequency energy removes
2 disc tissue of the nucleus pulposus.
- 1 6. The method of claim 1, 2, 3, or 4 wherein applying radiofrequency energy
2 from the member to decrease the volume of the nucleus pulposus reduces pressure in the
3 intervertebral disc.
- 1 7. The method of claim 1, 2, 3, or 4 wherein applying radiofrequency energy to
2 decrease the volume of the nucleus pulposus comprises ablating material of the nucleus
3 pulposus.
- 1 8. The method of claim 1, 2, 3, or 4 further comprising denervating at least a
2 portion of the intervertebral disc with the applied radiofrequency energy.

1 9. The method of claim 1, 2, 3, or 4 wherein advancing the member comprises
2 advancing the member through an introducer.

1 10. The method of claim 1, 2, 3, or 4 wherein advancing the member comprises
2 advancing the member beyond a central region of the nucleus pulposus.

1 11. The method of claim 1, 2, 3, or 4 wherein applying radiofrequency energy
2 comprises applying radiofrequency energy from an electrode of the member.

1 12. The method of claim 11 further comprising advancing the electrode beyond an
2 introducer.

1 13. The method of claim 11 further comprising providing the member with a
2 bipolar electrode configuration.

1 14. The method of claim 1 further comprises applying rotation to a proximal
2 region of the member to rotate a distal region of the member within the nucleus pulposus.

1 15. The method of claim 1 or 14 further comprising positioning a portion of the
2 member at an inner wall of an annulus fibrosus of the intervertebral disc.

1 16. The method of claim 1 or 14 wherein advancing the member
2 comprises advancing the member along a curved path.

1 17. The method of claim 1 further comprising providing the member with a total
2 length between 5 and 24 inches.

1 18. The method of claim 1 further comprising providing the member in the form
2 of a catheter.

1 19. The method of claim 1, 2, 3, or 4 wherein applying radiofrequency energy
2 comprises applying radiofrequency energy to an inner wall of an annulus fibrosus.

1 20. The method of claim 1, 2, 3, or 4 wherein applying radiofrequency energy
2 comprises applying radiofrequency energy while the member is positioned at a location
3 adjacent an inner wall of an annulus fibrosus.

1 21. The method of claim 1, 2, 3, or 4 wherein applying radiofrequency energy
2 comprises applying radiofrequency energy to multiple locations in the intervertebral disc.

1 22. The method of claim 21 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations simultaneously.

1 23. The method of claim 21 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations using separate
3 energy delivery elements of the member.

1 24. The method of claim 21 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations serially.

1 25. The method of claim 21 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations using a single
3 energy delivery element of the member.

1 26. The method of claim 1, 2, 3, or 4 further comprising advancing the member
2 along an inner wall of an annulus fibrosus.

1 27. A method comprising:
2 advancing a member through a nucleus pulposus of an intervertebral disc beyond a
3 central region of the nucleus pulposus, the nucleus pulposus having a volume, and
4 applying radiofrequency energy from the member to decrease the volume of the
5 nucleus pulposus.

1 28. The method of claim 27 wherein applying radiofrequency energy removes
2 material of the nucleus pulposus.

1 29. The method of claim 27 wherein applying radiofrequency energy removes
2 water of the nucleus pulposus.

1 30. The method of claim 27 wherein applying radiofrequency energy removes
2 disc tissue of the nucleus pulposus.

1 31. The method of claim 28 or 29 wherein applying radiofrequency energy
2 removes disc tissue of the nucleus pulposus.

1 32. The method of claim 27, 28, 29, or 30 wherein applying radiofrequency
2 energy from the member to decrease the volume of the nucleus pulposus reduces pressure in
3 the intervertebral disc.

1 33. The method of claim 27, 28, 29, or 30 wherein applying radiofrequency
2 energy to decrease the volume of the nucleus pulposus comprises ablating material of the
3 nucleus pulposus.

1 34. The method of claim 27, 28, 29, or 30 further comprising denervating at least
2 a portion of the intervertebral disc with the applied radiofrequency energy.

1 35. The method of claim 27, 28, 29, or 30 wherein advancing the member
2 comprises advancing the member through an introducer.

1 36. The method of claim 27, 28, 29, or 30 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy from an electrode of the member.

1 37. The method of claim 36 further comprising advancing the electrode beyond an
2 introducer.

1 38. The method of claim 36 further comprising providing the member with a
2 bipolar electrode configuration.

1 39. The method of claim 27 further comprising applying rotation to a proximal
2 region of the member to rotate a distal region of the member within the nucleus pulposus.

1 40. The method of claim 27 or 39 further comprising positioning a portion of the
2 member at an inner wall of an annulus fibrosus of the intervertebral disc.

1 41. The method of claim 27 or 39 wherein advancing the member comprises
2 advancing the member along a curved path.

1 42. The method of claim 27 further comprising providing the member with a total
2 length between 5 and 24 inches.

1 43. The method of claim 27 further comprising providing the member in the form
2 of a catheter.

1 44. The method of claim 27, 28, 29, or 30 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy to an inner wall of an annulus fibrosus.

1 45. The method of claim 27, 28, 29, or 30 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy while the member is positioned at a
3 location adjacent an inner wall of an annulus fibrosus.

1 46. The method of claim 27, 28, 29, or 30 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy to multiple locations in the intervertebral
3 disc.

1 47. The method of claim 46 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations simultaneously.

1 48. The method of claim 46 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations using separate
3 energy delivery elements of the member.

1 49. The method of claim 46 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations serially.

1 50. The method of claim 46 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations using a single
3 energy delivery element of the member.

1 51. The method of claim 27, 28, 29, or 30 further comprising advancing the
2 member along an inner wall of an annulus fibrosus.

1 52. A method comprising:
2 advancing a radiofrequency electrode into a nucleus pulposus of an intervertebral disc
3 by blunt dissection, the nucleus pulposus having a volume, and
4 activating the electrode to decrease the volume of the nucleus pulposus.

1 53. The method of claim 52 wherein activating the electrode to decrease the
2 volume of the nucleus pulposus reduces pressure in the intervertebral disc.

1 54. The method of claim 52 or 53 wherein activating the electrode to decrease the
2 volume of the nucleus pulposus comprises ablating material of the nucleus pulposus.

1 55. The method of claim 52 or 53 wherein advancing the electrode comprises
2 advancing the electrode beyond a central region of the nucleus pulposus.

1 56. The method of claim 52 wherein advancing the electrode further comprises
2 advancing a bipolar electrode configuration.

1 57. The method of claim 52 or 56 further comprising positioning the electrode at
2 an inner wall of an annulus fibrosus of the intervertebral disc.

1 58. The method of claim 52 or 56 wherein advancing the electrode
2 comprises advancing the electrode along a curved path.

1 59. The method of claim 52 or 53 wherein activating the electrode comprises
2 activating the electrode while the electrode is positioned at a location adjacent an inner wall
3 of an annulus fibrosus.

1 60. The method of claim 52 or 53 wherein activating the electrode comprises
2 delivering radiofrequency energy from the electrode to multiple locations in the
3 intervertebral disc.

1 61. The method of claim 60 wherein delivering radiofrequency energy to multiple
2 locations comprises delivering radiofrequency energy from the electrode to the multiple
3 locations simultaneously.

1 62. The method of claim 60 wherein delivering radiofrequency energy to multiple
2 locations comprises delivering radiofrequency energy from the electrode to the multiple
3 locations serially.

1 63. The method of claim 52 or 53 further comprising advancing the electrode
2 along an inner wall of an annulus fibrosus.

1 64. A method comprising:
2 advancing a radiofrequency electrode through a nucleus pulposus of an intervertebral
3 disc beyond a central region of the nucleus pulposus, the nucleus pulposus having a volume,
4 and
5 activating the electrode to decrease the volume of the nucleus pulposus.

1 65. The method of claim 64 wherein activating the electrode to decrease the
2 volume of the nucleus pulposus reduces pressure in the intervertebral disc.

1 66. The method of claim 64 or 65 wherein activating the electrode to decrease the
2 volume of the nucleus pulposus comprises ablating material of the nucleus pulposus.

1 67. The method of claim 64 wherein advancing the electrode further comprises
2 advancing a bipolar electrode configuration.

1 68. The method of claim 64 or 67 further comprising positioning the electrode at
2 an inner wall of an annulus fibrosus of the intervertebral disc.

1 69. The method of claim 64 or 67 wherein advancing the electrode
2 comprises advancing the electrode along a curved path.

1 70. The method of claim 64 or 65 wherein activating the electrode comprises
2 activating the electrode while the electrode is positioned at a location adjacent an inner wall
3 of an annulus fibrosus.

1 71. The method of claim 64 or 65 wherein activating the electrode comprises
2 delivering radiofrequency energy from the electrode to multiple locations in the
3 intervertebral disc.

1 72. The method of claim 71 wherein delivering radiofrequency energy to multiple
2 locations comprises delivering radiofrequency energy from the electrode to the multiple
3 locations simultaneously.

1 73. The method of claim 71 wherein delivering radiofrequency energy to multiple
2 locations comprises delivering radiofrequency energy from the electrode to the multiple
3 locations serially.

1 74. The method of claim 64 or 65 further comprising advancing the electrode
2 along an inner wall of an annulus fibrosus.

1 75. A method comprising:
2 advancing a member into a nucleus pulposus of an intervertebral disc by blunt
3 dissection, and
4 applying radiofrequency energy from the member to remove material of the nucleus
5 pulposus.

1 76. The method of claim 75 wherein applying radiofrequency energy removes
2 water of the nucleus pulposus.

1 77. The method of claim 75 wherein applying radiofrequency energy removes
2 disc tissue of the nucleus pulposus.

1 78. The method of claim 76 wherein applying radiofrequency energy removes
2 disc tissue of the nucleus pulposus.

1 79. The method of claim 75, 76, 77, or 78 wherein applying radiofrequency
2 energy from the member to remove material of the nucleus pulposus reduces pressure in the
3 intervertebral disc.

1 80. The method of claim 75, 76, 77, or 78 wherein applying radiofrequency
2 energy from the member to remove material of the nucleus pulposus comprises ablating
3 material of the nucleus pulposus.

1 81. The method of claim 75, 76, 77, or 78 further comprising denervating at least
2 a portion of the intervertebral disc with the applied radiofrequency energy.

1 82. The method of claim 75, 76, 77, or 78 wherein advancing the member
2 comprises advancing the member through an introducer.

1 83. The method of claim 75, 76, 77, or 78 wherein advancing the member
2 comprises advancing the member beyond a central region of the nucleus pulposus.

1 84. The method of claim 75, 76, 77, or 78 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy from an electrode of the member.

1 85. The method of claim 84 further comprising advancing the electrode beyond an
2 introducer.

1 86. The method of claim 84 further comprising providing the member with a
2 bipolar electrode configuration.

1 87. The method of claim 75 further comprising applying rotation to a proximal
2 region of the member to rotate a distal region of the member within the nucleus pulposus.

1 88. The method of claim 75 or 87 further comprising positioning a portion of the
2 member at an inner wall of an annulus fibrosus of the intervertebral disc.

1 89. The method of claim 75 or 87 wherein advancing the member
2 comprises advancing the member along a curved path.

1 90. The method of claim 75 further comprising providing the member with a total
2 length between 5 and 24 inches.

1 91. The method of claim 75 further comprising providing the member in the form
2 of a catheter.

1 92. The method of claim 75, 76, 77, or 78 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy to an inner wall of an annulus fibrosus.

1 93. The method of claim 75, 76, 77, or 78 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy while the member is positioned at a
3 location adjacent an inner wall of an annulus fibrosus.

1 94. The method of claim 75, 76, 77, or 78 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy to multiple locations in the intervertebral
3 disc.

1 95. The method of claim 94 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations simultaneously.

1 96. The method of claim 94 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations using separate
3 energy delivery elements of the member.

1 97. The method of claim 94 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations serially.

1 98. The method of claim 94 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations using a single
3 energy delivery element of the member.

1 99. The method of claim 75, 76, 77, or 78 further comprising advancing the
2 member along an inner wall of an annulus fibrosus.

1 100. A method comprising:
2 advancing a member through a nucleus pulposus of an intervertebral disc beyond a
3 central region of the nucleus pulposus, and
4 applying radiofrequency energy from the member to remove material of the nucleus
5 pulposus.

1 101. The method of claim 100 wherein applying radiofrequency energy removes
2 water of the nucleus pulposus.

1 102. The method of claim 100 wherein applying radiofrequency energy removes
2 disc tissue of the nucleus pulposus.

1 103. The method of claim 101 wherein applying radiofrequency energy removes
2 disc tissue of the nucleus pulposus.

1 104. The method of claim 100, 101, 102, or 103 wherein applying radiofrequency
2 energy from the member to remove material of the nucleus pulposus reduces pressure in the
3 intervertebral disc.

1 105. The method of claim 100, 101, 102, or 103 wherein applying radiofrequency
2 energy from the member to remove material of the nucleus pulposus comprises ablating
3 material of the nucleus pulposus.

1 106. The method of claim 100, 101, 102, or 103 further comprising denervating at
2 least a portion of the intervertebral disc with the applied radiofrequency energy.

1 107. The method of claim 100, 101, 102, or 103 wherein advancing the member
2 comprises advancing the member through an introducer.

1 108. The method of claim 100, 101, 102, or 103 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy from an electrode of the member.

1 109. The method of claim 108 further comprising advancing the electrode beyond
2 an introducer.

1 110. The method of claim 108 further comprising providing the member with a
2 bipolar electrode configuration.

1 111. The method of claim 100 further comprises applying rotation to a proximal
2 region of the member to rotate a distal region of the member within the nucleus pulposus.

1 112. The method of claim 100 or 111 further comprising positioning a portion of
2 the member at an inner wall of an annulus fibrosus of the intervertebral disc.

1 113. The method of claim 100 or 111 wherein advancing the member comprises
2 advancing the member along a curved path.

1 114. The method of claim 100 further comprising providing the member with a
2 total length between 5 and 24 inches.

1 115. The method of claim 100 further comprising providing the member in the
2 form of a catheter.

1 116. The method of claim 100, 101, 102, or 103 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy to an inner wall of an annulus fibrosus.

1 117. The method of claim 100, 101, 102, or 103 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy while the member is positioned at a
3 location adjacent an inner wall of an annulus fibrosus.

1 118. The method of claim 100, 101, 102, or 103 wherein applying radiofrequency
2 energy comprises applying radiofrequency energy to multiple locations in the intervertebral
3 disc.

1 119. The method of claim 118 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations simultaneously.

1 120. The method of claim 118 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations using separate
3 energy delivery elements of the member.

1 121. The method of claim 118 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations serially.

1 122. The method of claim 118 wherein applying radiofrequency energy to multiple
2 locations comprises applying radiofrequency energy to the multiple locations using a single
3 energy delivery element of the member.

1 123. The method of claim 100, 101, 102, or 103 further comprising advancing the
2 member along an inner wall of an annulus fibrosus.

1 124. A method comprising:
2 advancing a radiofrequency electrode into a nucleus pulposus of an intervertebral disc
3 by blunt dissection, and
4 activating the electrode to remove material of the nucleus pulposus.

1 125. The method of claim 124 wherein activating the electrode to remove material
2 of the nucleus pulposus reduces pressure in the intervertebral disc.

1 126. The method of claim 124 or 125 wherein activating the electrode to remove
2 material of the nucleus pulposus comprises ablating material of the nucleus pulposus.

1 127. The method of claim 124 or 125 wherein advancing the electrode comprises
2 advancing the electrode beyond a central region of the nucleus pulposus.

1 128. The method of claim 124 wherein advancing the electrode further comprises
2 advancing a bipolar electrode configuration.

1 129. The method of claim 124 or 128 further comprising positioning the electrode
2 at an inner wall of an annulus fibrosus of the intervertebral disc.

1 130. The method of claim 124 or 128 wherein advancing the electrode
2 comprises advancing the electrode along a curved path.

1 131. The method of claim 124 or 125 wherein activating the electrode comprises
2 activating the electrode while the electrode is positioned at a location adjacent an inner wall
3 of an annulus fibrosus.

1 132. The method of claim 124 or 125 wherein activating the electrode comprises
2 delivering radiofrequency energy from the electrode to multiple locations in the
3 intervertebral disc.

1 133. The method of claim 132 wherein delivering radiofrequency energy to
2 multiple locations comprises delivering radiofrequency energy from the electrode to the
3 multiple locations simultaneously.

1 134. The method of claim 132 wherein delivering radiofrequency energy to
2 multiple locations comprises delivering radiofrequency energy from the electrode to the
3 multiple locations serially.

1 135. The method of claim 124 or 125 further comprising advancing the electrode
2 along an inner wall of an annulus fibrosus.

1 136. A method comprising:
2 advancing a radiofrequency electrode through a nucleus pulposus of an intervertebral
3 disc beyond a central region of the nucleus pulposus, and
4 activating the electrode to remove material of the nucleus pulposus.

1 137. The method of claim 136 wherein activating the electrode to remove material
2 of the nucleus pulposus reduces pressure in the intervertebral disc.

1 138. The method of claim 136 or 137 wherein activating the electrode to remove
2 material of the nucleus pulposus comprises ablating material of the nucleus pulposus.

1 139. The method of claim 136 wherein advancing the electrode further comprises
2 advancing a bipolar electrode configuration.

1 140. The method of claim 136 or 139 further comprising positioning the electrode
2 at an inner wall of an annulus fibrosus of the intervertebral disc.

1 141. The method of claim 136 or 139 wherein advancing the electrode
2 comprises advancing the electrode along a curved path.

1 142. The method of claim 136 or 137 wherein activating the electrode comprises
2 activating the electrode while the electrode is positioned at a location adjacent an inner wall
3 of an annulus fibrosus.

1 143. The method of claim 136 or 137 wherein activating the electrode comprises
2 delivering radiofrequency energy from the electrode to multiple locations in the
3 intervertebral disc.

1 144. The method of claim 143 wherein delivering radiofrequency energy to
2 multiple locations comprises delivering radiofrequency energy from the electrode to the
3 multiple locations simultaneously.

1 145. The method of claim 143 wherein delivering radiofrequency energy to
2 multiple locations comprises delivering radiofrequency energy from the electrode to the
3 multiple locations serially.

1 146. The method of claim 136 or 137 further comprising advancing the electrode
2 along an inner wall of an annulus fibrosus.

1 147. The method of claim 1 wherein advancing the member into the nucleus
2 pulposus comprises conforming the member sufficiently to an inner wall of an annulus
3 fibrosus to contact multiple locations on the inner wall.